

## **CHAPTER 4: SPECIAL PLANNING FOR HIGH-RISK EVENTS**

### **INTRODUCTION**

Some events contain more risks than others, and they require special planning well in advance of the event. This chapter provides some examples of high-risk events and suggests ways to prepare for emergencies that may occur during those events. Planners should ensure personnel are trained and equipped for the unique nature of these events. Another way to learn of these risks is to check with other agencies to gain additional information. For each of these high-risk events, weather is a critical factor you must consider.

### **POWER BOAT RACES AND SIMILAR AQUATIC EVENTS**

Before any outdoor event begins, check with the proper agencies such as the Coast Guard, natural resources, or other applicable agencies.

#### **Medical Support for Participants**

Aquatic events, particularly those involving motorized watercraft, require careful planning. A dedicated medical response boat should be available in the water with appropriately trained personnel and equipment, including a spinal board and resuscitation equipment. The medical boat should be linked by two-way radio to the rescue boats and ambulance/medical services. For offshore boat racing, consider a helicopter with rescue capabilities.

A rescue boat should be in attendance with experienced divers, equipped with scuba gear, to remove personnel trapped underwater.

Identify landing locations appropriate for the transfer of patients on stretchers from boats to land ambulances.

#### **Spectator Areas**

Appropriate buffer walls or “run off” areas should be established to prevent out-of-control vessels from entering spectator and pit areas.

Where spectators are permitted to line piers and breakwaters along areas of deep water, observe the following practices:

- In the absence of some physical barrier, mark a line to warn spectators away from the edges fronting deep water.
- In addition to any vessel committed to assisting event participants, a dedicated boat should constantly patrol the spectator area. It should be equipped with a loud speaker

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## Special Planning for High-Risk Events

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to warn spectators who venture too close to the edge. The boat should also be suitably equipped to provide water rescue and the resuscitation of injured people.

All boats intended for rescue, or designated to provide medical attention, should be clearly marked and equipped with some form of hazard lighting to warn other vessels off. Any boats used for participant or spectator control should be staffed with personnel trained in appropriate lifesaving and emergency medical practices, including CPR.

Any boat intended for medical assistance or water rescue should contain sufficient clear space to resuscitate the prone human form and be equipped, at a minimum, with the following:

- Automatic External Defibrillator (AED);
- A spinal board for full-body immobilization, plus cervical collars and restraint straps;
- Ventilation equipment, which should ideally be a positive pressure oxygen ventilator, or as a minimum, a bag-valve-mask unit, preferably with oxygen assist (oropharyngeal airways and suction should also be included);
- A supply of large pressure dressings;
- Personnel trained and experienced in the use of the equipment identified above; and
- Personnel trained and attired to perform water rescue and removal.

### **AUTOMOBILE AND SIMILAR RACES**

While aquatic events present hazards to participants and spectators, and difficulties to event planners and incident responders not faced in other events, some types of auto racing also present unique areas of concern.

Sponsors of organized auto races conducted by professional racing organizations at permanent facilities normally meet the safety guidelines required for participants as outlined in this document. Similarly, professional racing organizations using temporary facilities follow very strict guidelines.

However, for racing events conducted by local clubs, no formal safety guidelines exist to cover the health and safety of participants and spectators. Motor Cross races, bicycle races, and specialized automobile rallies are a source of great concern because of the very limited control exercised over spectators and the often-remote locations. Spectators invariably position themselves in remote, almost inaccessible, areas where the action is expected to be spectacular. The entire course should be monitored as well as possible, and a suitable communications system should be in place.

### **Medical Support for Participants**

In the event of a crash, an ambulance with a trained staff should be available immediately. The medical support staff must understand the racing rules and be trained to recognize the various flags and special warning lights used by race officials.

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## Special Planning for High-Risk Events

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Understanding the racing rules and the signals ensures that the staff knows how soon another racing vehicle will arrive at the accident scene, whether or not the crashed vehicle remains on the track.

At smaller club events, having an ambulance on stand-by may be cost prohibitive, and other suitable arrangements must be made. In such circumstances, a dedicated vehicle with appropriate equipment and trained personnel should be available to serve as the ambulance. The vehicle should not be merely a van with basic equipment provided as an ad hoc measure.

The standby ambulance or other emergency vehicle should be positioned for controlled, rapid access to the track. An appropriate communications system and acknowledged procedures should be in place to activate an immediate ambulance response to a track emergency, while track officials modify racing.

Guidelines should be established in advance to determine:

- Whether the race will continue if the ambulance leaves to transport a patient and no back-up ambulance is available to take its place; and
- Whether the ambulance will be dedicated strictly to the participants, and if so, what means are available to assist with medical emergencies among the spectators.

If possible, the race should be stopped when an ambulance or other emergency vehicle is on the track, even though some races continue to run under the caution flag.

Suitable “first attack” fire fighting and rescue equipment should also be available at the track. If onsite resources are not able to successfully respond to an emergency, procedures to obtain additional rapid fire and rescue service must be in place.

If you expect great risk to participants and spectators, large numbers of spectators, or if the nearest hospital is very far, consider providing a site hospital.

### **Spectator Areas**

Barriers should be in place to isolate spectators from out-of-control vehicles. Further enhance safety by posting a compulsory “no man’s land” to keep spectators away from the barrier fence. Experience shows that these barriers can be moved or broken by out-of-control vehicles, resulting in injuries to spectators who are leaning against the barriers.

When personnel design barrier height and strength, they should take into account the possibility that one vehicle may mount another or somersault end over end. A barrier intended to retard penetration by a single impacting vehicle is insufficient.

In addition, parts of automobiles involved in collisions can become projectiles, and wheels can come loose and bounce into spectator areas. To protect spectators, affix a

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## Special Planning for High-Risk Events

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strong wire-mesh debris screen to the barrier fencing and to the tops of retaining walls. The wire-mesh screen permits spectator visibility while serving as a trap for projectiles.

Carefully monitor spectator access, if you permit any spectators to the track and pit areas at any time, including after the race. Participants often test vehicles after the event, with neither drivers nor spectators anticipating each other's presence on the track.

Spectators invading the track after the winner has passed the finish line, but while other competitors are still racing, have caused major problems including injuries at a number of events. All officials should be briefed on ways to control spectators who intend to invade the track and how to respond should those control measures fail.

### **Pit Areas**

In-race refueling of cars in pit areas creates a potential for fire if fuel inadvertently contacts hot parts or is ignited by a spark. To counter this threat, appropriate and sufficiently large fire extinguishers, or some other suitable equipment for extinguishing fire, must be available at refueling sites for use by trained personnel. Remind personnel that some racing fuels burn with an invisible flame.

The combination of vehicles entering the pit lane at high speed and the drivers' vision being obstructed by barriers increases the risk to both drivers and pit crews. Organizers should consider introducing speed limits in pit lanes and enforcing suitable penalties for transgressions by drivers. Ideally, organizers should also implement a system of notifying pit personnel when vehicles are entering the pits, such as a siren or horn.

Because spectators are generally unfamiliar with pit environments and procedures, organizers should restrict access to the pits to officials and members of the race crews. If you permit spectators in the pit area, you must properly control them, taking into consideration the need to protect them from pit hazards, such as moving vehicles, hot engine parts, and sharp metal.

If possible, organizers should not permit spectators to cross the racetrack. If you allow spectators to cross the track, then restrict all spectator crossings to designated crossing points that are strictly controlled by race officials. Officials should be equipped with an efficient communication system connected to the race control area, which can provide information about upcoming race traffic.

### **AIR SHOWS AND DISPLAYS**

The hazards presented by air events are similar to those already discussed, with a few hazards being unique to these events.

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## Special Planning for High-Risk Events

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Although air shows are usually staged in accordance with aviation rules and regulations, event organizers, emergency managers, and health personnel should take specific steps to reduce the risk of a serious incident.

### **Acrobatic Areas**

Acrobatic maneuvers should not take place over built-up areas, but over fields, water, airstrips, or other uninhabited areas. Aircraft should not fly over spectator areas. Where aircraft exit a maneuver laterally (parallel to the ground) the direction of exit should be away from, or parallel to, the spectators, not towards or over them.

### **Safety**

Onsite fire services should be capable of delivering fire-suppressing foam onto a crashed or burning aircraft. If the air show does not take place at an airport with foam-equipped trucks, consider alternate arrangements for their provision, because water-delivering fire apparatus is unsatisfactory.

Organizers should clearly understand the requirements of the coroner and air crash investigators and be prepared to assist in the event of a mishap.

Contingency plans should state how personnel will interact with spectators following an incident (that is, cancel the show, hold closest spectators as witnesses, or request home video cameras which might have recorded the incident).

### **Parachute Jumps**

Parachute jumps should designate landing zones that are safely away from spectators and create no obvious hazards to the jumpers. Parachutists can be blown off course and suffer injury or death as a result. Spectators can also be injured in the scramble to avoid a descending jumper.

## **FIREWORKS/PYROTECHNICS**

Shows involving fireworks or pyrotechnics also present specific risks. When event organizers plan public displays of fireworks, they should notify and consult with the local authorities, including police, fire, and emergency medical services prior to the event. Most pyrotechnic providers or contractors follow OSHA safety standards for the placement of spectator seating and fireworks launch sites.

### **Placement of Launch Site**

Most major incidents involving fireworks can be avoided through careful design of the launch site.

In establishing a launch site, organizers must pay close attention to the anticipated or prevailing wind direction and strength, both of which may affect the flight path of fireworks and the area where debris will fall. In addition, when you establish site

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## Special Planning for High-Risk Events

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placement and design, prepare for the possibility of abandoning the display in an emergency.

Where possible, the launch site should be on water (for example, on a barge or pier), enabling personnel to easily abandon the site if an accident occurs and the pyrotechnic supply ignites.

A barrier must be erected between the crowd and the launch site in order to protect the crowd if fireworks tip over after ignition, resulting in a lateral, rather than vertical, projection.

Fireworks must not be projected over the heads of spectators because debris is often hot and can injure spectators if it falls into their eyes or onto their heads. Another concern is health effects due to the smoke. Anticipate potential respiratory difficulties, especially in those spectators prone to breathing problems such as asthma and allergies.

If you launch fireworks over water, do not project them over flammable trees, bush areas, buildings, or boats.

Store unused fireworks in covered metal containers to prevent accidental ignition, either by staff or by descending hot particles from previously ignited fireworks.

Fire equipment, including fire extinguishers appropriate to the location, and trained firefighters should be immediately available at the launch site.

Personnel deploying and igniting fireworks should wear protective clothing, including face shields, helmets, and heavy gloves, in case of explosion or premature or delayed ignition.

After the event, personnel should carefully inspect the launch site and surrounding area to ensure that no incipient or rekindled fires are possible. All used fireworks should be soaked in water and removed from the site, along with any securing spikes, wires, or other potentially hazardous objects.

### **LASERS**

Laser light shows are now frequently included as a form of entertainment at many special events. Prior to the laser light show, health care personnel on site should understand the kinds of accidents that can occur and identify potential hazards when lasers are used. They also should know the kind and type of laser that will be used.

### SPONTANEOUS EVENTS

Occasionally an event occurs without planning. Local emergency management and public safety agencies need to be aware that spontaneous events create the same need for emergency response contingencies as planned events and that safety plans or agreed-upon roles and responsibilities for participants will be established. Such spontaneous events present unique difficulties to public safety personnel because they offer no warning and, therefore, no time to plan.

Types of spontaneous events include those which:

- Are planned without official input or permits as a result of an oversight;
- Are planned without official input or permits on purpose;
- Result from other events:
  - Planned local spin off, such as a victory parade for a local sports team,
  - Local focal point, or
  - Response to an "under-planned" primary event; and
- Are demonstrations, protests, or picketing:
  - Civil disobedience,
  - Planned disorderly behavior, or
  - Spontaneous violence.

Pre-existing mutual aid agreements, response plans, training, and resource lists will assist communities that are confronted with a spontaneous event. To develop these pre-existing response aides, the local emergency management agency may act as a catalyst to promote cooperation among local response agencies. Local emergency management can also fill its role in the Emergency Operation Center (EOC) if the spontaneous event is large enough to require the EOC activation.

Because they are dynamic, a well-timed and appropriate response is critical to safe outcomes of these spontaneous events. However, in many instances, the local or county public safety officials on duty are initially charged with all the roles and responsibilities of managing the spontaneous event. At the same time, they are faced with other non-event incidents in the community. If communities train to respond to the various incidents associated with a spontaneous event, they can more effectively respond in times of emergency.

Staffing, response, and public safety requirements for spontaneous events are the same or greater than those for a planned event of the same nature. Essential to the successful outcome of a spontaneous event is implementing the Incident Command System (ICS) of management for an orderly and coordinated deployment of resources and personnel.

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## Special Planning for High-Risk Events

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Identifying a staging area where additional personnel and resources will be gathered is necessary. Briefing all personnel and establishing an appropriate span of control is critical to pre-deployment of personnel and resources in response to a spontaneous event. Establishing a situation unit in the Planning Section of the ICS designed to keep the incident commander informed of changes in the nature of the event may be necessary.

Another essential element in anticipation of and pre-planning for a spontaneous event is a continuing evaluation of other events, either locally or nationally, that may be catalysts for a spontaneous event in your community. Many spontaneous events occur with some level of expectation by public safety officials. The significant difference between an organized special event and a spontaneous event is that no planning time exists before a spontaneous event.

If a spontaneous event or unplanned mass gathering occurs in your community, time is critical and should not be wasted trying to determine how the event happened and who will be held responsible. After-action reports and investigations can fulfill that role. Critical time management requires that all energy be focused on response and activation of pre-existing plans and cooperation among participating agencies.

### **EVENTS INVOLVING PRE-TEEN AND EARLY TEEN AUDIENCES**

Concerts that attract younger audiences (for example, pre-teens and early teens) can create a number of difficulties. These spectators can become lost or separated from friends, miss scheduled return transportation, or lack sufficient funds to pay for alternate transportation.

Parents will often take young spectators to such events and then have difficulty finding them at the conclusion. If parents are using their cars to pick up children, traffic jams may prevent close access to the venue. Prior to entering the venue, parents and their children should identify a specific place to meet at the conclusion of the event.

One method to alleviate difficulties is to create a “Parents' Oasis” adjacent to the venue to provide parents with a waiting area during the concert. Coffee, soft drinks, snacks, and newspapers can be available to help parents pass the time they spend waiting.

The concept of a “Parents' Oasis” is one that is particularly well-suited to concert events that parents would not want to attend and that their children would not want them to attend. The additional cost and effort devoted to providing such a facility are more than offset by the reduction in efforts needed to deal with the young audiences at the conclusion of the event.

Information booths with access to the public address system and clearly identified event staff can assist lost children and their parents. Also consider the compounding effect of a major incident exacerbated by the problems of parents attempting to gain access to the



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## **Special Planning for High-Risk Events**

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area in order to be re-united with their children or, in the worst-case scenario, trying to find out where their injured children have been taken.

As you have seen, events may pose hazards and risks unique to their activity or audience. This unit presented some of the particular hazards and high-risks that event planners need to be aware of. By no means are these all the risks to which a response must be prepared. Careful planning and expecting the unexpected helps make the special event memorable and safe for sponsors, participants, and spectators.